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MCKENNA LONG & ALDRIDGE LLP
1900 K STREET, NW
WASHINGTON, DC 20006

EXAMINER

MARTINEZ, BRITTANY M

ART UNIT	PAPER NUMBER
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1793

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/537,947	Applicant(s) FRANGER ET AL.	
	Examiner BRITTANY M. MARTINEZ	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/31/2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-75 is/are rejected.
- 7) ☒ Claim(s) 36, 39, 41, 42, 46, 47, 50, and 72 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Application

Applicants' arguments/remarks and amendments filed March 31, 2009, have been carefully considered. **Claims 29-75** are pending in the instant application, with **Claims 29-31, 37, 39, 43, 45-47, 51, 52 and 56** amended and **Claims 57-75** added. **Claims 1-28** have been cancelled. **Claims 29-75** have been examined.

Priority

1. Should Applicants desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) with regard to FR 02/15915, filed December 16, 2002, prior to declaration of an interference, a certified English translation of the foreign application must be submitted in reply to this action. 37 CFR 41.154(b) and 41.202(e).

Failure to provide a certified translation may result in no benefit being accorded for the non-English application.

Claim Objections

1. **Claims 36, 39, 41, 42, 46, 47, 50, and 72** are objected to because of the following informalities: in line 2 of **Claim 36**, the "the" following "chosen from" should be deleted and a "the" should be inserted after "compounds of;" in line 2 of **Claim 39**, the commas following "medium" and "a)" should be deleted; in **Claim 39**, the semicolons following "water" and "solvents" should be changed to commas; in line 2 of **Claim 41**,

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the “stage” following “prepared in a” should be changed to “step;” in line 2 of **Claim 42**, the “the” following “chosen from” should be deleted and a “the” should be inserted after “compounds of;” in **Claim 46**, the semicolons following “water” and “solvents” should be changed to commas; in the 4th line of **Claim 47**, the “as at” following “metal M” should be changed to “in an;” in line 2 of **Claim 50**, the commas following “controlled” and “homogeneous” should be deleted; and there are two **Claim 72s** in the claim listing (it appears the second **Claim 72** should be **Claim 74**). Appropriate correction is required.

2. **Claim 31** is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicants are required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The only limitation of **Claim 31** (M is chosen from transition metals) fails to further limit the “transition metals M” limitation of **Claim 29**, from which **Claim 31** depends.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 30, 35, 36, 39-42, 46, 47, 51, 52, 58, 67, 69 and 73** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

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5. Regarding **Claim 30**, the phrase "the metal M is in an oxidation state of 3 to 5" renders the claim indefinite because it is unclear whether this limitation refers to the metal M before or after the decomposition of the organic complex.

6. **Claim 35** recites the limitation "the alkali metal salt" in the 1st-2nd line of the claim. There is insufficient antecedent basis for this limitation in the claim.

7. The portion of **Claim 36** that reads "at least one from....and R₃..." utilizes improper Markush terminology. See MPEP § 2173.05(h). This rejection may be overcome by amending the claim to read "at least one selected from the group consisting of....and R₃..."

8. **Claim 39** recites the limitation "stage" in the 2nd line of the claim. There is insufficient antecedent basis for this limitation in the claim.

9. The portion of **Claim 39** that reads "chosen from....and their mixtures..." utilizes improper Markush terminology. See MPEP § 2173.05(h). This rejection may be overcome by amending the claim to read "selected from the group consisting of...and their mixtures ..."

10. **Claim 39** recites the limitation "their" in the 3rd line of the claim. There is insufficient antecedent basis for this limitation in the claim. This rejection may be overcome by amending the portion of the claims that reads "their mixtures" to read "mixtures thereof."

11. **Claim 40** recites the limitation "stage" in the 2nd line of the claim. There is insufficient antecedent basis for this limitation in the claim.

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12. **Claim 41** recites the limitation "stage" in the 2nd line of the claim. There is insufficient antecedent basis for this limitation in the claim.
13. **Claim 41** recites the limitation "the oxidation state" in the 2nd-3rd lines of the claim. There is insufficient antecedent basis for this limitation in the claim.
14. The use of "liquid medium" in **Claim 41** renders the claim indefinite because it is unclear whether the liquid medium of **Claim 41** is the same liquid medium of **Claim 29** or whether it is some other liquid medium.
15. The portion of **Claim 42** that reads "at least one from....and R₃..." utilizes improper Markush terminology. See MPEP § 2173.05(h). This rejection may be overcome by amending the claim to read "at least one selected from the group consisting of...and R₃..."
16. The portion of **Claim 46** that reads "chosen from....and their mixtures..." utilizes improper Markush terminology. See MPEP § 2173.05(h). This rejection may be overcome by amending the claim to read "selected from the group consisting of...and their mixtures ..."
17. **Claim 46** recites the limitation "their" in the 3rd line of the claim. There is insufficient antecedent basis for this limitation in the claim. This rejection may be overcome by amending the portion of the claims that reads "their mixtures" to read "mixtures thereof."
18. **Claim 47** is indefinite because "M" is not defined.

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19. Regarding **Claim 47**, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

20. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, **Claim 47** recites the broad recitation 5% by weight, and the claim also recites 1% by weight which is the narrower statement of the range/limitation.

21. **Claim 47** recites the limitation "it" in the 3rd line of the claim. There is insufficient antecedent basis for this limitation in the claim.

22. **Claim 51** recites the limitation "the deviation" in the 1st-2nd lines of the claim. There is insufficient antecedent basis for this limitation in the claim.

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23. The portion of **Claim 52** that reads “selected from the group consisting of..., and...and the insertion...” utilizes improper Markush terminology. See MPEP § 2173.05(h). It is unclear whether “compounds of the family isotypic...” is part of the group of “other active compounds.”

24. **Claim 52** recites the limitation “the family isotypic with olivine” in the 5th-6th lines of the claim. There is insufficient antecedent basis for this limitation in the claim.

25. **Claim 52** recites the limitation “the Nasicon structure” in the 6th line of the claim. There is insufficient antecedent basis for this limitation in the claim.

26. **Claim 52** recites the limitation “the insertion materials of lithium of the orthosilicate type” in the 6th-7th lines of the claim. There is insufficient antecedent basis for this limitation in the claim.

27. **Claim 58** recites the limitation “the transition materials” in the 1st line of the claim. There is insufficient antecedent basis for this limitation in the claim.

28. **Claim 67** is indefinite because it is unclear whether “x” is the “x” defined in **Claim 52**.

29. The portion of **Claim 69** that reads “selected from the group consisting of..., and...and the insertion...” utilizes improper Markush terminology. See MPEP § 2173.05(h). It is unclear whether “compounds of the family isotypic...” is part of the group of “other active compounds.”

30. **Claim 69** recites the limitation “the family isotypic with olivine” in the 4th line of the claim. There is insufficient antecedent basis for this limitation in the claim.

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31. **Claim 69** recites the limitation "the Nasicon structure" in the 4th line of the claim.

There is insufficient antecedent basis for this limitation in the claim.

32. **Claim 69** recites the limitation "the insertion materials of lithium of the orthosilicate type" in the 4th-5th lines of the claim. There is insufficient antecedent basis for this limitation in the claim.

33. **Claim 73** is indefinite because it is unclear whether "x" is the "x" defined in **Claim 69**.

Claim Rejections - 35 USC § 102/103

34. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

35. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

36. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

37. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

38. **Claims 29-54, 56-59, 62, 65, 66, 69-71 and 75** are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Franger et al. (*Journal of Power Sources*).

39. With regard to **Claims 29-39 and 57-59**, Franger discloses a process for the preparation of LiFePO_4 comprising following steps: a) iron nitrilotriacetate is brought into contact with Li_2HPO_4 in water in a closed chamber; the chamber is brought to a temperature T which makes possible the decomposition of the organic complex in the water; b) the temperature and pressure in the chamber are brought back to ambient

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temperature and atmospheric pressure and the LiFePO_4 is recovered (Franger, p. 253, 2nd column; p. 254, 1st column).

40. With regard to **Claim 40**, Franger discloses the LiFePO_4 washed and dried under vacuum after step b) (Franger, p. 254, 1st column).

41. With regard to **Claims 41-46 and 62**, Franger discloses the iron nitrilotriacetate prepared in a step prior to step a) by bringing iron (III) sulphate into contact with nitrilotriacetic acid in water (Franger, p. 257, "5. Annexe").

42. With regard to **Claims 47, 52-54, 56, 69-71 and 75**, Franger discloses LiFePO_4 in an electrode active material that is in a positive electrode that is in a battery (Franger, p. 252; p. 253, 2nd column; p. 254, 1st column).

43. With regard to **Claims 48-50**, Franger discloses LiFePO_4 in the form of cylindrical or polyhedral particles with fully controlled homogeneous morphology (Franger, p. 254; p. 257, "Conclusion").

44. Franger does not explicitly disclose the insertion compound containing less than 5% or 1% by weight metal M in an oxidation state greater than 2 (**Claim 47**); the deviation from the mean value of the size of the particles being less than 20% (**Claim 51**), 10% (**Claim 65**), or 1% (**Claim 66**); nor an electrochromic device (**Claims 56 and 75**).

45. With regard to **Claim 47**, Franger does not disclose the presence of any iron in an oxidation state greater than 2 after the production of LiFePO_4 is complete, thus the LiFePO_4 of Franger would be expected to contain 0% by weight iron in an oxidation state greater than 2.

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46. With regard to **Claims 51, 65, and 66**, in the absence of a teaching of deviation from the mean value of particle size, the deviation would be expected to be 0%.

47. With regard to **Claims 56 and 75**, the recitation electrochromic device has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). As written, **Claims 56 and 75** only necessitate the insertion compound (LiFePO₄). Thus, Franger anticipates these claims. In any event, the LiFePO₄ of Franger would inherently be capable of serving as an electrochromic device since Franger discloses the claimed insertion compound and production process.

48. Applicants cannot rely upon the foreign priority papers with regard to FR 02/15915, filed December 16, 2002, to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

49. **Claims 47-54, 56, 65, 66, 69-71 and 75** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bridson et al. (*Chem. Mater.*).

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50. With regard to **Claims 47, 52-54, 56, 69-71 and 75**, Bridson discloses NaFePO_4 (Bridson, p. 764, 1st column).

51. With regard to **Claims 48-50**, Bridson discloses the NaFePO_4 in the form of plate-like or needlelike crystals, depending on the process temperature (Bridson, p. 765, 1st column, "Syntheses of Maricite").

52. With regard to **Claims 51, 65, and 66**, Bridson discloses the NaFePO_4 grown as about 10 micron long needlelike crystals or about 200 micron diameter plate-like single crystals, depending on the process temperature (Bridson, p. 765, 1st column, "Syntheses of Maricite").

53. Bridson does not explicitly disclose the insertion compound containing less than 5% or 1% by weight metal M in an oxidation state greater than 2 (**Claim 47**); the deviation from the mean value of the size of the particles being less than 20% (**Claim 51**), 10% (**Claim 65**), or 1% (**Claim 66**); an electrode active material (**Claims 52 and 69**); positive electrode (**Claims 53 and 70**); a battery (**Claims 54 and 71**); nor an electrochromic device (**Claims 56 and 75**).

54. With regard to **Claim 47**, Bridson does not disclose the presence of any iron in an oxidation state greater than 2 after the production of NaFePO_4 is complete, thus the NaFePO_4 of Bridson would be expected to contain 0% by weight iron in an oxidation state greater than 2.

55. With regard to **Claims 51, 65, and 66**, in the absence of a teaching of deviation from the mean value of particle size, the deviation would be expected to be 0%.

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56. With regard to **Claims 52-54, 56, 69-71 and 75**, the recitations electrode active material, positive electrode, battery, and electrochromic device have not been given patentable weight because the recitations occur in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). As written, **Claims 52-54, 56, 69-71 and 75** only necessitate the insertion compound (NaFePO₄). Thus, Bridson anticipates these claims. In any event, the NaFePO₄ of Bridson would inherently be capable of serving as an electrode active material, a positive electrode, a battery, or an electrochromic device since Bridson discloses the claimed insertion compound and production process.

57. **Claims 29-34, 39, 47, 52-54, 57, 58 and 69-71** are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Barker et al. (US 2002/0192553 A1).

58. With regard to **Claims 29-34, 39, 57 and 58**, Barker discloses a process for the preparation of NaFePO₄ comprising following steps: a) an organic complex of iron in an oxidation state greater than 2 (3) is brought into contact with sodium in ionic form and with a hydrogen ammonium phosphate or dihydrogen ammonium phosphate entity in water in a closed chamber; the chamber is brought to a temperature T which makes

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possible the decomposition of the organic complex in the water; b) the temperature and pressure in the chamber are brought back to ambient temperature and atmospheric pressure and the NaFePO_4 is recovered (Barker, 0115-0126, 0136-0166).

59. With regard to **Claims 47, 52-54 and 69-71**, Barker discloses a battery comprising a positive electrode comprising an active material comprising NaFePO_4 (Barker, "Abstract;" p. 1, 0006-0014; p. 21, 0280). Barker further discloses blends of two or more active materials may be used in the cathodes, and one potential additional active material is LiMn_2O_4 (Barker, p. 13, 0192).

60. Barker does not explicitly disclose the insertion compound containing less than 5% or 1% by weight metal M in an oxidation state greater than 2 (**Claim 47**).

61. With regard to **Claim 47**, Barker does not disclose the presence of any iron in an oxidation state greater than 2 after the production of NaFePO_4 is complete, thus the NaFePO_4 of Barker would be expected to contain 0% by weight iron in an oxidation state greater than 2.

62. **Claims 47, 52-56 and 67-75** are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Neudecker et al. (US 2004/0048157 A1).

63. With regard to **Claims 47, 52-54, 67-71, 73 and 74**, Neudecker discloses a battery comprising a positive electrode comprising an active material comprising LiFePO_4 (Neudecker, 0059, 0068, 0113; Claims 50, 106 and 11). Neudecker further discloses blends of active materials may be used in the cathodes, potential additional

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active materials including LiCoO_2 , LiNiO_2 , LiFePO_4 , and LiMn_2O_4 (Neudecker, 0059, 0068, 0113; Claims 50, 106 and 11).

64. With regard to **Claims 55 and 72**, Neudecker discloses the battery further comprising a negative electrode based on $\text{Li}_4\text{Ti}_5\text{O}_{12}$ (Neudecker, 0046 and 0112; Claim 22).

65. With regard to **Claims 56 and 75**, Neudecker discloses an electrochromic device comprising LiFePO_4 (Neudecker, 0126; Claims 78 and 79).

66. Neudecker does not explicitly disclose the process of **Claim 29 (Claim 69)**; nor the insertion compound containing less than 5% or 1% by weight metal M in an oxidation state greater than 2 (**Claim 47**).

67. With regard to **Claim 47**, Neudecker does not disclose the presence of any iron in an oxidation state greater than 2 in the LiFePO_4 compound, thus the LiFePO_4 of Neudecker would be expected to contain 0% by weight iron in an oxidation state greater than 2.

68. With regard to **Claim 69**, the process for producing the composition is held to be obvious, when the reference teaches a product that appears to be the same as, or an obvious variant of, the product set forth in a product-by-process claim although produced by a different process See *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983), and *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir.1985). See also MPEP 2113.

Claim Rejections - 35 USC § 103

69. **Claims 29-34, 36-46 and 57-64** are rejected under 35 U.S.C. 103(a) as obvious over Bridson et al. (*Chem. Mater.*).

70. With regard to **Claims 29-34, 36-39 and 57-59**, Bridson discloses a process for the preparation of NaFePO_4 comprising following steps: a) iron nitrilotriacetate is brought into contact with NaHPO_4 in water in a closed chamber; the chamber is brought to a temperature T which makes possible the decomposition of the organic complex in the water; b) the chamber is cooled; and the NaFePO_4 is recovered (Bridson, p. 764, "Experimental Section;" p. 765, 1st column, "Syntheses of Maricite;" p. 766, "Crystal Structures" and "Discussion;" Tables 1 and 2; p. 767, 1st column).

71. With regard to **Claim 40**, Bridson discloses the NaFePO_4 washed after step b) in a suction filter (Bridson, p. 765, 1st column, "Syntheses of Maricite").

72. With regard to **Claims 41-46 and 62**, Bridson discloses the iron nitrilotriacetate prepared in a step prior to step a) by bringing ammonium ferric sulfate into contact with nitrilotriacetic acid in water (Bridson, p. 764, "Experimental Section").

73. Bridson does not explicitly disclose b) the temperature and pressure in the chamber are brought back to ambient temperature and atmospheric pressure (**Claim 29**); drying (**Claim 40**); the organic solvent being liquid alkanes (**Claims 60 and 63**); nor the liquid alkanes being dodecane or tributyl phosphate (TBP) (**Claims 61 and 64**).

74. With regard to the ambient temperature and pressure limitation of **Claim 29**, it is conventional to bring process chambers back to ambient temperature and pressure at the cessation of a process. In any event, the product would come to ambient

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temperature and pressure after being removed from the chamber, and changing the order of process steps is *prima facie* obvious.

75. With regard to the drying step of **Claim 40**, the NaFePO_4 would inherently be dried by washing with ethanol in a suction filter. In any event, the NaFePO_4 would dry upon sitting.

76. With regard to **Claims 60, 61, 63 and 64**, choosing an organic solvent would have been a matter of process design and optimization and thus, obvious to one of ordinary skill in the art. Further, liquid alkanes such as dodecane and tributyl phosphate are well known organic solvents in the art, and thus would have been obvious variants of the water of Bridson.

77. **Claims 52-54 and 69-71** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridson et al. (*Chem. Mater.*) as applied to **Claims 29 and 47** above, and further in view of Barker et al. (US 2002/0192553 A1).

78. Bridson does not explicitly disclose an electrode active material (**Claims 52 and 69**); positive electrode (**Claims 53 and 70**); nor a battery (**Claims 54 and 71**).

79. With regard to **Claims 52-54 and 69-71**, Barker discloses a battery comprising a positive electrode comprising an active material comprising NaFePO_4 (Barker, "Abstract;" p. 1, 0006-0014; p. 21, 0280). Barker further discloses blends of two or more active materials may be used in the cathodes, and one potential additional active material is LiMn_2O_4 (Barker, p. 13, 0192).

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80. Thus, it would have been obvious to one of ordinary skill in the art to try to modify the product disclosed by Bridson with the uses as taught by Barker because one of ordinary skill in the art could have pursued the known potential use options within his or her technical grasp with a reasonable expectation of success.

81. **Claims 56 and 75** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridson et al. (*Chem. Mater.*) as applied to **Claims 29 and 47** above, and further in view of Barker et al. (US 2002/0192553 A1) and Munshi (US 6,645,675 B1).

82. Bridson does not explicitly disclose an electrochromic device (**Claims 56 and 75**).

83. With regard to **Claims 56 and 75**, Barker discloses a battery comprising a positive electrode comprising an active material comprising NaFePO₄ (Barker, "Abstract," p. 1, 0006-0014; p. 21, 0280).

84. With regard to **Claims 56 and 75**, Munshi discloses sodium electrolyte compounds useful in electrochromic devices (Munshi, c. 27, l. 52-66).

85. Thus, it would have been obvious to one of ordinary skill in the art to try to modify the product disclosed by Bridson with the use as taught by the aforementioned applied art because one of ordinary skill in the art could have pursued the known potential use options within his or her technical grasp with a reasonable expectation of success.

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86. **Claims 60 and 61** are rejected under 35 U.S.C. 103(a) as obvious over Barker et al. (US 2002/0192553 A1) as applied to **Claims 29 and 39** above, and further as discussed below.

87. Barker does not explicitly disclose the organic solvent being liquid alkanes (**Claim 60**); nor the liquid alkanes being dodecane or tributyl phosphate (TBP) (**Claim 61**).

88. With regard to **Claims 60 and 61**, choosing an organic solvent would have been a matter of process design and optimization and thus, obvious to one of ordinary skill in the art. Further, liquid alkanes such as dodecane and tributyl phosphate are well known organic solvents in the art, and thus would have been obvious variants of the water of Barker.

89. **Claim 35** is rejected under 35 U.S.C. 103(a) as obvious over Barker et al. (US 2002/0192553 A1) as applied to **Claims 29 and 32** above, and further in view of Stoker et al. (US 2004/0013943 A1).

90. With regard to **Claim 35**, Barker discloses sodium ion batteries are analogous to lithium ion batteries (Barker, 0005; 0040; and 0122).

91. Barker does not explicitly disclose the alkali metal salt being Li_2HPO_4 (**Claim 35**).

92. With regard to **Claim 35**, Stoker discloses the production of a lithium orthophosphate material useful as an electrochemically active material from a Li_2HPO_4 precursor (Stoker, 0004; 0007; 0016; 0052; 0079; and 0085).

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93. Thus, it would have been obvious to one of ordinary skill in the art to modify the process of Barker with the alkali metal salt of Stoker in order to obtain a lithium ion battery.

94. **Claim 35** is rejected under 35 U.S.C. 103(a) as obvious over Bridson et al. (*Chem. Mater.*) as applied to **Claims 29 and 32** above, and further in view of Stoker et al. (US 2004/0013943 A1).

95. Bridson does not explicitly disclose the alkali metal salt being Li_2HPO_4 (**Claim 35**).

96. With regard to **Claim 35**, Stoker discloses sodium analogous to lithium in electrochemically active materials. Stoker further discloses the production of a lithium orthophosphate material useful as an electrochemically active material from a Li_2HPO_4 precursor (Stoker, 0004; 0007; 0016; 0052; 0079; and 0085).

97. Thus, it would have been obvious to one of ordinary skill in the art to modify the process of Bridson with the alkali metal salt of Stoker in order to obtain a lithium electrochemically active material.

Response to Amendment

The amendments to the Specification and Claims submitted March 31, 2009, have been carefully considered and are accepted. The objections to the Specification and Claims filed January 26, 2009, have been withdrawn and the 35 U.S.C. 112 rejection filed January 26, 2009, has been withdrawn.

Response to Arguments

98. Applicants' arguments with respect to the instant claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

1. No claim is allowed.
2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRITTANY M. MARTINEZ whose telephone number is (571) 270-3586. The examiner can normally be reached Monday-Friday 9:00AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached at (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Wayne Langel/
Primary Examiner, Art Unit 1793

BMM

/Brittany M Martinez/
Examiner, Art Unit 1793